

is actually C. hexangulare Greenm.

Additional citations: GUATEMALA: Izabal: J. A. Steyermark 41825 (N). COSTA RICA: Guanacaste: Brenes 12322 (N); Jiménez M. 1165 (W—2751901). San José: Molina R., Burger, Jiménez, & Wal-lenta 18045 (N); Skutch 4315 (E—1157067, N). PANAMA: Bocas del Toro: G. P. Cooper 384 (F—579254, F—579523, K, N, N—photo, W—1521573, W—1521580, Y—11975Y, Z—photo). Chiriquí: P. H. Allen 3661 (E—1572261, N, N); Cooper & Slater 201 (N); Dwyer & Hayden 7762 (E—1926253); P. White 223 (E—1190153); Woodson & Schery 755 (E—1204855, N). Province undetermined: Stork 42 [Western Panama] (M, W—1166830).

#### CITHAREXYLUM WEBERBAUERI Hayek

Additional synonymy: Citharexylum weberbaueri Hayek apud Hocking, Excerpt. Bot. A.11: 504, sphalm. 1967.

Additional & emended bibliography: Prain, Ind. Kew. Suppl. 4, imp. 1, 49 (1913) and imp. 2, 49. 1958; J. F. Macbr., Field Mus. Publ. Bot. 13 (5): 668, 671, & 680—681. 1960; Moldenke, Phytologia 13: 317. 1966; Hocking, Excerpt. Bot. A.11: 504. 1967; Moldenke, Biol. Abstr. 49: 4199. 1968; Moldenke, Résumé Suppl. 16: 19. 1968; Moldenke, Fifth Summ. 1: 140, 431, & 437 (1971) and 2: 861. 1971; Moldenke, Phytologia 31: 338. 1975.

Macbride (1960) cites only the type collection, Weberbauer 3731, from Huánuco, Peru, and comments that this plant is "A meter tall, resembling C. flexuosum but the leaves not rounded, the racemes few-flowered, the blossoms small.....; this as [-and] C. andinum Mold. may be genetically distinct but the problem is certainly open to question."

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#### ADDITIONAL NOTES ON THE GENUS PITRAEA. III

Harold N. Moldenke

PITRAEA Turcz., Bull. Soc. Imp. Nat. Mosc. 35 (2): 328—329. 1862.

Synonymy: Castelia Cav., Anal. Cienc. Nat. Madrid 3: 134, pl. 30, Icon. & Descr. 6: 60, pl. 583. 1801 [nom. rejic.; not Castelia Lieb., 1853, nor Castela Turp., 1806, nor Castellia Tin., 1817]. Cartelia Cav. apud C. Gay, Hist. Fis. Chile Bot. 5: 7, in syn. sphalm. 1849. Phelloderma Miers, Trans. Linn. Soc. Lond. Bot. 27: 100. 1870. Priva Juss. ex Miers, Trans. Linn. Soc. Lond. Bot. 27: 100, in syn. 1870 [not Priva Adans., 1763]. Bouchea Gay ex Miers, Trans. Linn. Soc. Lond. Bot. 27: 100, in syn. 1870 [not Bouchea Cham., 1832]. Bastelia Cav. ex Moldenke, Alph. List Cit. 4: 1088, sphalm. 1949.

Additional & emended bibliography: Pers., Sp. Pl. 3: 349. 1819; Spach, Hist. Nat. Veg. Phan. 9: 227. 1840; Walp., Repert. Bot. Syst. 4: 36. 1845; C. Gay, Hist. Fis. Chile Bot. 5: 7 & 25—27, fig. 1 (1849) and Atlas pl. 55. 1854; Hieron., Bol. Acad. Nat. Córdoba 4: 407. 1881; Voss in Vilm., Blumergärt. 1: 825. 1895; Rehnelt, Pareys Blumengärt., ed. 1, 277. 1932; Wangerin in Just, Bot. Jahresber. 54 (1): 1170 [366]. 1932; Parsa, Fl. Iran 4 (1): 534. 1949; Lanjouw, Internat. Code Bot. Nom., ed. 8, 248 & 282. 1956; Anon., Taxon 7: 119. 1958; Anon., U. S. Dept. Agr. Bot. Subj. Index 15: 14358. 1958; Bullock, Taxon 7: 10. 1958; Rickett & Stafleu, Taxon 8: 301. 1959; J. F. Macbr., Field Mus. Publ. Bot. 13 (5): 611 & 661—662. 1960; Caro, Kurtziana 1: 271—282. 1961; Burkart, Excerpt. Bot. A.5: 467. 1962; Focking, Excerpt. Bot. A.5: 42 (1962) and A.6: 533. 1963; Melchior in Engl., Syllab. Pfl., ed. 12, 2: 437. 1964; F. A. Barkley, List Ord. Fam. Anthoph. 76 & 150. 1965; Chopra, Badhwa, & Ghosh, Poison. Pl. India 2: 694. 1965; Airy Shaw in J. C. Willis, Dict. Flow. Pl., ed. 7, 207, 862, 885, & 921. 1966; Lanjouw, Internat. Code Bot. Nom., ed. 10, 305 & 358. 1966; Moldenke, Phytologia 15: 41—42 (1967) and 16: 506. 1968; Moldenke, Biol. Abstr. 49: 1325 (1968) and 49 (3): S. 29 & S.73. 1968; Hocking, Excerpt. Bot. A.13: 569. 1968; Moldenke, Résumé Suppl. 16: 19. 1968; Anon., Torr. Bot. Club Ind. Am. Bot. Lit. 3: 305 & 308. 1969; Soukup, Raymondiana 3: 26 & 45. 1970; G. Taylor, Ind. Kew. Suppl. 14: 105. 1970; Heusser, Pollen & Spores Chile 82. 1971; Moldenke, Fifth Summ. 1: 5, 139, 147, 181, 191, 195, 356, 396, 398, 399, 422, & 424 (1971) and 2: 600, 603, 612, 614, 681, 688, 703, 755, & 857. 1971; Stafleu, Internat. Code Bot. Nom., ed. 11, 325 & 381. 1972; Thanikaimoni, Inst. Franç. Pond. Trav. Sect. Scient. & Techn. 12 (1): 187 & 258. 1972; Airy Shaw in J. C. Willis, Dict. Flow. Pl., ed. 8, 213, 885, & 908. 1973; Altschul, Drugs & Foods 245. 1973; Moldenke, Phytologia 26: 501 (1973) and 28: 454 & 507. 1974; Troncoso, Darwiniana 18: 296, 301, 302, 304, 361—364, 408, & 411, fig. 19 & 20. 1974; Moldenke, Phytologia 31: 384, 385, 387, 391—394, 406, 411, & 412. 1975.

The two previously issued numbers in this series of notes on this genus were entitled "Additional notes on the genus Castelia" (I in Phytologia 7: 368. 1961; II in Phytologia 15: 41—42. 1967). It is most unfortunate, in my opinion, that the International Code of Botanical Nomenclature (1956, 1972) has now legislated against the use of Castelia Cav. (1801) in favor of Pitreaea Turcz. (1862), a name which will unquestionably very often be confused with Petrea Houst. which is often written as "Petraea". Troncoso (1974) comments in this connection: "Esta género fue originariamente descrito por Cavanilles, 1801 bajo el epíteto Castelia, nombre considerado como Nom. rejic. (cfr. Código Intern. Nom. Bot.: 249. 1956) por constituir un caso de homonimia con respecto a Castela Turpin (ambos nombres dados en homenaje a J. de Dios Castel)." Juan de Dios Castel was a Spanish companion of Loefling on his trip up the Orinoco River. Castela Turp., however, was not published until 1806, so if these names are to be considered homonyms, it is Turpin's which ought to be rejected! Castela Turp.

was published in Ann. Mus. Hist. Nat. Paris 7: 78 for a genus in the Simaroubaceae, the conserved type of which is C. depressa Turp.

It should be noted here that the Walpers (1845) reference cited in the bibliography above is often dated "1846", but pages 1--192 of this volume of the work were actually issued in 1845.

Troncoso (1974) also comments that "No he podido observar la capa de albumen señalado por Moldenke y Caro en las semillas de Pitraea. En semillas perfectamente maduras se diferencia netamente el embrión y el tegumento blando e incoloro que lo rodea, el cual parecería conservar una delgadísima capa de albumen residual aplicado al tegmen y formando parte del mismo. Este albumen residual que parece ser común en muchas familias (Belzung: 927. 1900), no puede tenerse en cuenta para señalarlo como carácter albuminoso de la semilla."

Macbride (1960) says that the genus "Differs from Priva especially in the thick hard merely rugulose pyrenes (Briquet) and in the (in part) verticillate flowers, tuberous roots (Moldenke) — Kobuski, following Briquet and Rusby, included it in Priva, which classification indicates its closest living affinity, but in floristic work it conveniently may be considered a separate entity; moreover, Moldenke listed (after Miers and others) 12 contrasting characters, notably the calyx not globosely dilated in fruit, corolla-tube veins straight, staminode present, nutlets joined in fruit."

Airy Shaw (1966) regards Pitraea as the valid name for the genus, but regards Phelloderma as a synonym of Priva Adans., a disposition which is entirely incorrect since Phelloderma is based on the same taxon as is Pitraea. In Phytologia 6: 234 (1958) the Greek words were inadvertently omitted in the derivation of the name Phelloderma. They are  $\phi\epsilon\lambda\lambda\omicron\varsigma$  and  $\delta\epsilon\rho\mu\alpha$ .

PITRAEA CUNEATO-OVATA (Cav.) Caro, Kurtziana 1: 274. 1961.

Additional & emended synonymy: Castelia cuneato-ovata Cav., Anal. Cienc. Nat. Madrid 3: 134--135, pl. 30 & Icon. & Descr. Pl. 6: 60, pl. 583. 1801. Priva laevis A. L. Juss., Ann. Mus. Hist. Nat. Paris 7: 70. 1806. Verbena tuberosa R. Grah., N. Phil. Journ. 29: 174. 1840. Priva? orchioides Walp., Repert. Bot. Syst. 4: 36. 1845. Verbena lobelioides Grah. ex Walp., Repert. Bot. Syst. 4: 33, in syn. 1845. Verbena orchioides Walp., Repert. Bot. Syst. 4: 36, in syn. 1845. Verbena lobelioides Hort. ex Schau. in A. DC., Prodr. 11: 533. 1847. Bouchea copiapensis C. Gay, Hist. Fis. Chile Bot. 5: 26 & Atlas 1: pl. 55. 1849. Cartelia cuneato-ovata Cav. apud C. Gay, Hist. Fis. Chile Bot. 5: 7, sphalm. 1849. Pitraea chilensis Turcz., Bull. Soc. Imp. Nat. Mosc. 35 (2): 329. 1862. Bouchea copiapina Gay ex R. A. Phil., Anal. Univ. Chil. 35: 193. 1870. Phelloderma cuneato-ovata (Cav.) Miers, Trans. Linn. Soc. Lond. Bot. 27: 100.

1870. Castilleja cuneato ovata Cav. apud F. Phil., Cat. Pl. Vasc. Chil. 217, sphalm. 1881. Phelloderma cuneato-ovata Miers ex Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 2: 493. 1894. Priva orchidoides Walp. ex Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 2: 628, in syn. 1894. Castelia cuneo-ovata Cav. ex Voss in Vilm., Blumengärt. 1: 825, in syn. 1895. Verbena orchidoides Hort. ex Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 2: 1179. 1895. Verbena orchidoides Walp. ex Voss in Vilm., Blumengärt. 1: 825, in syn. 1895. Priva cuneato-ovata (Cav.) Rusby, Bull. Torrey Bot. Club 27: 80. 1900. Priva cuneato-ovatis (Cav.) Rusby apud Grenz., Ann. Mo. Bot. Gard. 13: 74. 1926. Priva cuneato-obovata (Cav.) Rusby apud Wangerin in Just, Bot. Jahresber. 54 (1): 1170, sphalm. 1932. Bouchea copiapensis Clos.-Phil. ex Moldenke, Prelim. Alph. List Invalid Names 7, in syn. 1940. Bastelia cuneato-ovata Cav. ex Moldenke, Alph. List Cit. 4: 1088, sphalm. 1949. Castelia laevis Melchior in Engl., Syllab. Pflanzenfam., ed. 12, 2: 437. 1964.

Additional & amended bibliography: Pers., Sp. Pl. 3: 349. 1819; Walp., Repert. Bot. Syst. 4: 36. 1845; C. Gay, Hist. Fis. Chile 5: 25--27 (1849) and Atlas pl. 55. 1854; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 2: 493. 1894; Voss in Vilm., Blumengärt. 1: 825. 1895; C. Gay, Hist. Fis. Chil. Bot. 5: 7 & 25--26, fig. 1. 1849; Reiche & Phil., Fl. Chil. 5: 304--305. 1910; Sturtevant, Notes Edible Pl., imp. 1, 454. 1919; Grenz., Ann. Mo. Bot. Gard. 13: 74 & 88. 1926; Wangerin in Just, Bot. Jahresber. 65 (1): 1170 [366]. 1932; Metcalfe & Chalk, Anat. Dicot. 1035 & 1040. 1950; Darlington & Wylie, Chrom. Atlas 324. 1956; Lanjouw, Internat. Code Bot. Nom., ed. 8, 249. 1956; Anon., Taxon 7: 119. 1958; Bullock, Taxon 7: 10. 1958; R. C. Foster, Contrib. Gray Herb. 184: 169. 1958; Rickett & Stafleu, Taxon 8: 301. 1959; J. F. Macbr., Field Mus. Publ. Bot. 13 (5): 661--662. 1960; Caro, Kurtziana 1: 271--282. 1961; Burkart, Excerpt. Bot. A.5: 467. 1962; Hocking, Excerpt. Bot. A.5: 42 (1962) and A.6: 533. 1963; Melchior in Engl., Syllab. Pflanzenfam., ed. 12, 2: 437. 1964; Lanjouw, Internat. Code Bot. Nom., ed. 10, 305. 1966; Hocking, Excerpt. Bot. A.13: 569. 1968; Bolkh., Grif, Matvej., & Zakhar., Chrom. Numb. Flow. Pl. 714. 1969; Anon., Biore. Index 6: 6422. 1970; Feldman & Garcia, Plant Dis. Rep. 54: 722--723. 1970; G. Taylor, Ind. Kew. Suppl. 14: 105. 1970; Heusser, Pollen & Spores Chile 62, pl. 59--671. 1971; Moldenke, Fifth Summ. 1: 139, 147, 181, 191, 195, 356, 396, 399, & 424 (1971) and 2: 600, 603, 614, 681, 688, 703, & 857. 1971; Hedrick, Sturtevant Notes Edible Pl., imp. 2, 454. 1972; F. Perry, Fls. World 305 & 318. 1972; Stafleu, Internat. Code Bot. Nom., ed. 11, 325. 1972; Altschul, Drugs & Foods 245. 1973; Rouleau, Taxon Index Vols. 1-20, part 1: 73. 1973; Troncoso, Darwiniana 18: 361--364 & 411, fig. 19 & 20. 1974; Moldenke, Phytologia 28: 454 (1974) and 31: 384, 385, 387, 391--394, 406, 411, & 412. 1975.

Additional illustrations: Caro, Kurtziana 1: fig. 1. 1961;

Heusser, Pollen & Spores Chile pl. 59-671. 1971; Troncoso, Darwiniana 18: 362 & 363, fig. 19 & 20. 1974.

Troncoso (1974) says of this plant's natural geographic distribution: "América templada: Perú, Chile, Bolivia y Argentina. en la Argentina ocupa el centro, norte y noroeste del país." She cites Venturi 8594 from Jujuy, H. H. Bartlett 19370 from Mendoza, and Ragonese 2270 from Santa Fe, Argentina, all deposited in the San Isidro herbarium, M. Cárdenas 3712 from Potosí, Bolivia, and H. H. Rusby 2531 from Tacna and Pfister 9360 from Antofagasta, Chile. She comments that "Según algunos coleccionistas (Eyerdam, in sched.) los tubérculos son comestibles. Ciertos autores le señalan propiedades medicinales (Domínguez: 212. 1905). Ha sido registrada como planta invasora y en Chile se la considera maleza (cfr. Caro: 280. 1961)." Altschul (1973) also reports the tubers edible, based on Eyerdam 24646. Feldman & Gracia (1970) report the plant as host to the alfalfa mosaic virus. Covas & Schnack (1946) report the chromosome number as 24, but Darlington & Wylie (1956) report the number as 44.

Heusser (1971) describes the pollen as "Monad, isopolar, radiosymmetric; tricolporate, colpi lengthy, narrow, constricted at the equator, pore area poorly defined, bulging somewhat; subprolate-prolate, amb subtriangular; exine ca 1.5  $\mu$  thick, clearly tectate, more or less psilate; 43-60 x 34-48  $\mu$ " based on "G. Geisse, Illapel (Coquimbo), 1893, SGO 42505. Distribution: Province of Antofagasta—Santiago."

Gay (1849) says "Meyen encontró esta planta cerca de Copiapo" and "Esta planta muy escasa se cria en los lugares secos de la provincia de Copiapo". Macbride (1960) says "Tuber edible, white (Eyerdam) at the end of a long string of fibrous roots, the flowers fragrant (Balls); corolla white, the tube purplish (Metcalf)" and cites Scolnik 1032 from Ica and Eyerdam 24646, Metcalf 30350, Raimondi 1813, Rusby 2531, and Shepard 269 from Tacna, Peru, giving the overall distribution as "Chile; to Argentina".

Voss (1895) describes the plant as "Staude, 30-45 cm hoch; Blütezeit: August bis Herbst; Pflanze mit knolligem, kriechendem Erdstamm, kahl, mit endständigen Blütenähren; Blüten hellrosenrot, mit feinem Orangenduft. — Hübsche, unter leichter Schutzdecke in jedem besseren Gartenboden überwinterte und durch ihre knolligen Erdstämme leicht zu vermehrende Pflanze für sonnige Standorte in Landschaftsgärten. Anzucht aus Samen." According to Rehnelt (1932) the German common name for the plant is "glatte Priva".

Recent collectors describe this plant as a very hardy perennial herb, 25-50 cm. tall, erect, and have found it growing in cultivated ground at 1100 m. altitude. Zöllner describes it as a weed in fields in Tarapacá, Chile, while García refers to it as abundant in wet places in Santiago del Estero, Argentina. The corollas are said to have been "lilac" in color on Krapovickas & Cristóbal 20645, "white" on T. Meyer 3883 and Villafañe 1119, and "white to pinkish-white" on Eyerdam 24646. It has been found in anthesis from December to March.

Material has been misidentified and distributed in some herbaria as "Labiatae". The Herb. Inst. Miguel Lillo 98621 collection, at least insofar as the United States National Herbarium specimen of it is concerned, is a mixture with a species of Marsypianthes.

Additional citations: CHILE: Tacna: Eyerdam 24646 (Ba). Tarapacá: Zöllner 3071 (Ac). ARGENTINA: Catamarca: Brizuela 540 (Ms-34199), 947 (N); A. Reales 823 (N), 978 (N); Villafañe 1119 (N). Córdoba: Gutiérrez 116 (Tu-77309). Mendoza: Lourteig 937 [Herb. Inst. M. Lillo 114104] (N); Villafañe 990 (Au-121515). Salta: Krapovickas & Cristóbal 20645 (Ld); T. Meyer 3883 [Herb. Inst. Miguel Lillo 35686] (E-265607). Santiago del Estero: Cuezco 2337 (Au-121516); P. García 262 (N). MOUNTED CLIPPINGS: Miers, Trans. Linn. Soc. Lond. Bot. 27: 101. 1870 (W).

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ADDITIONAL NOTES ON THE GENUS CORNUTIA. III

Harold N. Moldenke

CORNUTIA Plum. ex L., Sp. Pl., ed. 1, imp. 1, 2: 628. 1753; Gen. Pl., ed. 5, 276. 1754 [not Cornutia Burm. f., 1768].

Additional & emended synonymy: Cornuta Plum. ex L., Gen. Pl., ed. 6, 316. 1764. Cornvtia Scop., Introd. Hist. Nat. 170 & 179. 1777. Hosta Jacq., Hort. Schoenbr. 1: 60, pl. 114. 1797 [not Hosta Pfeiff., 1966, nor Tratt., 1814, nor Vell., 1874]. Cornutia [Plum. ex L.] L. apud Dalla Torre & Harms, Gen. Siphonog., imp. 1, 432. 1904.

Additional & emended bibliography: L., Crit. Bot. 92 & [280]. 1737; L., Gen. Pl., ed. 1, 24, 25, 366, [385], & [390]. 1737; L., Meth. Sex. Gen. Pl. 15, 92, & [280]. 1737; L., Gen. Pl., ed. 2, 303 & [535] (1742), ed. 3 ["2<sup>n</sup>"], 233 & [419] (1743), and ed. 4, 233 & [448]. 1752; L., Sp. Pl., ed. 1, imp. 1, 2: 628. 1753; L., Gen. Pl., ed. 5, imp. 1, 276 & [501]. 1754; Adans., Fam. Pl. 2: 12, 196, & 199. 1763; L., Gen. Pl., ed. 6, 316 & [587]. 1764; [Retz.], Nom. Bot. 154 & [284]. 1772; Planer, Gatt. Pfl. 2: 557 & 1057. 1775; Scop., Introd. Hist. Nat. 170 & 179. 1777; Reichard in L., Gen. Pl., ed. 8, 318. 1778; J. F. Gmel. in L., Syst. Nat., ed. 13, imp. 1, 2: 890 & 946. 1789; Haenke in L., Gen. Pl., ed. 10 ["8<sup>n</sup>"], 2: 554 & 794. 1791; Schreb. in L., Gen. Pl., ed. 9 ["8<sup>n</sup>"], 2: 414-415 & 849. 1791; J. F. Gmel. in L., Syst. Nat., ed. 13, imp. 2, 2: 890 & 946. 1796; Raeusch., Nom. Bot., ed. 3, 173 & 383. 1797; Batsch, Tabl. Aff. Reg. Veg. 193. 1802; Desf., Tabl. Écol. Bot., ed. 1, 54. 1804; Willd., Enum. Pl. Hort. Berol. 2: 652. 1809; Desf., Tabl. Écol. Bot., ed. 2, 64. 1815; H.B.K., Nov. Gen. & Sp. Pl., ed. folio, 2: 200-201 (1817) and ed. quarto, 2: 247-248. 1818; Pers., Sp. Pl. 3: 358-359. 1819; J. E. Sm., Gram. Bot. 98 & 223. 1821;